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UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR PRELIMINARY PERMIT

JD SKY PUMPED STORAGE HYDRO PROJECT

FERC PROJECT NO. P-14

Applicant:

Renewable Energy Aggregators

Agent:

Adam Rousselle Sr.

VERIFICATION

This Application for preliminary permit is executed in the

State of South Carolina

County of Charleston

BY: Adam Rousselle Sr.

2113 Middle Street Suite 202

Sullivans Island, SC 29482

Being duly sworn, deposes and says that the contents of this application are true and to the best of his knowledge or belief. The undersigned applicant has signed the application this 1 day of October 2019.

Adam Rousselle Sr.

Subscribed and sworn before me, a notary Public of the State of South Carolina this 1 day of October 2019.

Theresa Lungarini
Notary Public

THERESA LUNGARINI
Notary Public
State of South Carolina
My Commission Expires Jun 25, 2029

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Initial statement

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

Application for Preliminary Permit

1) Renewable Energy Aggregators applies to the Federal Energy Regulatory Commission for a preliminary permit for the proposed JD Sky Pumped Storage Hydro Project, as described in the attached exhibits. This application is made in order that the applicant may secure and maintain priority of application for a license for the project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for a license.

2) The location of the proposed project is:

State or territory:	Arizona
County:	Maricopa
Township or nearby town:	Town of Buckeye
Stream or other body of water:	None

3) Applicant's Contact Information

The exact name, business address, and telephone number of the applicant are:

Renewable Energy Aggregators
Adam Rousselle Sr
2113 Middle Street Suite 201
Sullivans Island, SC 29482
Email: arousselle@reaggregators.com
Phone: 267-254-6107

The exact name and business address of each person authorized to act as agent for the applicant is:

Adam Rousselle
2113 Middle Street Suite 201
Sullivans Island, SC 29482
Email: arousselle@reaggregators.com
Phone: 267-254-6107

4) Statement of Authority:

Renewable Energy Aggregators is a Corporation located in Pennsylvania, it is organized under the laws of the Commonwealth Of Pennsylvania and as such, the Applicant is qualified under §4(e) of the Federal Power Act (FPA) to hold hydroelectric licenses issued under Part 1 of the FPA. The Applicant is not claiming preference under §7(a) of the FPA at this time.

5) The proposed term of the requested permit is 36 Months.

6) Existing Dams or Other Project Facilities

There are no existing dams or project facilities.

A: Additional Information (18 CFR 4.32)

1) **The Applicant intends to obtain and will maintain and proprietary rights necessary to construct operate or maintain the project.**
2) **The names and mailing addresses of entities affected or used by the proposed project are provided below.**
    a) County in which the project would be located:
        i. Maricopa
        301 West Jefferson Street Suite 100
        Phoenix, Az 85003

3) **City, Town or similar local political subdivision**
    a)Every City, town or similar political subdivision in which the project would be located:

    None

    b)Every City, town or similar political subdivision that has a population of 5,000 or more people and is located within 15 miles of the project:

    City of Avondale
    11465 West Civic Center Drive
    Avondale, AZ 85323

    Town of Buckeye
    1101 East Ash Avenue
    Buckeye, AZ 85326

    El Mirage City Hall, P.O. Box 26
    12145 NW Grand Avenue
    El Mirage, Arizona 85335

    City of Glendale City Hall
    5850 West Glendale Avenue
    Glendale, AZ 85301

    City of Goodyear
    190 N. Litchfield Road
    Goodyear AZ 85338

    City of Peoria Municipal Complex
    8401 W. Monroe Street
    Peoria, AZ 85345

    Sun City Center
    16824 N 99th Avenue
    Sun City, AZ 85351

    Sun City West Center
    13823 Camino del Sol
    Sun City West, AZ 85375-4409

Other interested parties we will file notice with:

Department of the Interior
Office of Environmental Affairs
Room 2340 MIB
1849 C Street, NW
Washington, DC 20240

Division of Lands and Renewable Resources (AZ-930)
Bureau of Land Management
222 North Central Avenue
Phoenix, AZ 85004-2203

South Pacific Office
U.S. Army Corps of Engineers
333 Market Street
San Francisco, CA 94105

National Marine Fisheries Service
501 West Ocean Boulevard
Long Beach, CA 90802-4213

4) Every irrigation district, drainage district, or similar purpose political subdivision:

a) in which any part of the project, and any Federal facilities that would be used by the project, would be located, or(See Figure 3)

Maricopa County Irrigation and Water conservation Districts
Clerk of the Board,
301 West Jefferson, 10th Floor
Phoenix, *AZ* 85003

Maricopa County Flood Control District
2801 West Durango Street
Phoenix, Arizona 85009
Maricopa County Parks and Recreation Department
234 N. Central Avenue, Suite 6400
Phoenix, *AZ* 85004

b) that owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project:

Arizona Trust Land
1616 West Adams Street
Phoenix, Az 85007 See Figure 3

The following list includes similar local subdivisions or water users, provided by the U.S. Bureau of Reclamation, Lower Colorado River Basin, that may have an interest in the project.

Additionally, the listed entities are the principle holders of the water allocations set forth by Congress and the Colorado Compact. These holders of the water allocations have contractual agreements, or have issued water use permits, or some form of legal commitment to supply water from their respective allocation to more than 150 water users in the lower Colorado river basin alone. This applicant has not yet contacted these entities to discuss water rights but will do so in October, 2019.

The types of users these entities serve include: corporations, farms, utilities, cities, city water districts, city

water companies, irrigation districts, drainage districts, Indian tribes, counties, cemeteries, ranches, farms, golf courses, produce companies, county associations, etc. (See Figure 3)

- Arizona Department of Water Resources
- Bureau of Indian Affairs
- Bureau of Reclamation
- Central Arizona Water Conservation District
- Colorado River Board of California
- Colorado River Commission of Nevada
- Maricopa County

5) Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application:
None

There are no political subdivisions in the general area that this applicant is aware of.

6) All Indian tribes that may be affected by the project.

The Applicant will advise the

Gila River Indian Community
Post Office Box 97
Sacaton, Arizona 85147.

Exhibit 1- Project Description

1.1 General Project Description

Based on current conceptual design, the JD Sky Pumped Storage Hydro Project involves the construction of a closed loop Pumped-storage hydroelectric generating facility capable of producing approximately 800 MW for 12 hours per day would require about 13,900 acre-feet of active storage.

The basic configuration would include:

- As many as four ternary style **pump/generating units** contained in a powerhouse
- A newly constructed lower reservoir of approximately 290 acres containing approximately 13,900 acre feet of water
- An Upper Reservoir of approximately 150 acres containing approximately 13,900 acre feet of water
- Underground penstock/ tunnels sufficient to provide hydrologic requirements. We anticipate 2, 19 foot diameter tunnels 12,160 feet long
- The project will have an approximate net head of approximately 1,180 feet.
- Emergency Spillway locations shown are approximate and require additional survey information to properly determine their location.

The average annual generation from this project would be approximately 311,00 MWh and the cost of the studies vary from $150,000 to $400,000.

1.2 RESERVOIRS

The estimated number, surface area, storage capacity, and normal maximum surface elevation (mean sea level) of any reservoirs, whether existing or proposed, that would be part of the project:

The Project will require two reservoirs: one for the upper reservoir which will straddle the border between the White Tank Mountain Park land and the Arizona State Land Department, and the second for the lower reservoir will be located entirely on State Land.

Upper Reservoir

The dam will be a roller compacted concrete, RCC, structure. It will be approximately 265 feet high, 1340 feet long at the crest, and a crest elevation of 3050 feet, msl.; a maximum pool elevation of 3,040 feet msl and the surface area will be 150 acres with a volume of 13,900 acres feet of water. The location and design of the spillways are site specific. Refer to Figure 1

Lower Reservoir

The lower reservoir will be a roller compacted concrete, RCC, structure. It will be approximately 95 feet high, "U" shaped to impound the mountain natural runoff. The three sides of the "u" will total I 0,800 feet long and a crest elevation of 1850 feet, msl.; a maximum pool elevation of 1,800 feet MSL, the surface area will be 290 acres and hold a volume of 13,900 acre feet of water. The location and design of the spillways are site specific. Refer to Figure 1

Penstocks, Powerhouses, & Tailraces

The penstocks and tailraces will be constructed underground to sizes, shapes and configurations based upon site investigations, optimized hydraulic analyses and the selected equipment and future studies. The powerhouse, egress, ventilation, safety, and other structures will be subject to site specific conditions and requirements. Refer to figure 2.

An initial engineering investigation suggests the construction of the following underground structures:

Penstocks and tailraces will be steel lined concrete as determined by the service requirements.

Penstocks: 2 - 19 ft. diameter x 12,160 ft. long.
Powerhouse: 750 ft. long x 175 ft. high x 70 ft. wide.
Tailrace: 2 - 21 ft. diameter x 3,000 ft. long.

Water source

The proposed project will request to utilize waters within the Colorado River region and conveyed to the project via the existing Central Arizona Project (CAP) aqueduct. A desktop study has shown that the CAP has historically commented there is ample capacity in the CAP aqueduct to transport the water. The applicant is aware that this information needs to be confirmed and that the Project must possess a long term water supply contract.

1.3 EXISTING OR PROPOSED TRANSMISSION LINES

The estimated number, length, voltage, interconnections, and, where applicable, age and condition, of any primary transmission lines whether existing or proposed, that would be part of the project [*see* 16 U.S.C. 796(11)]; refer to figure 2.

(1) Twin circuit 500 kv transmission lines will be installed. The transmission lines will proceed in a southerly direction from the project for a distance of about 40 miles to the existing transmission line rights-of-way owned by Arizona Public Service Company or Salt River Project
(2) The Applicant will conduct studies to determine the location, number of circuits, voltage, and configuration of the project's interconnection with the regional utility network.

1.4 GENERATING EQUIPMENT

Hydroelectric Plant
(1) Nominal Capacity 800 MW
(2) Number of Units As many as 4
(3) Composition Advanced Ternary Pumped Storage Single Runner
(4) Operating head is approximately 1180 feet

Powerhouse
(5) Height approximately 175 feet
(6) Length approximately 750 feet
(7) Width approximately 70 feet

Average Annual Energy Production
Assuming a twelve-hour generation time and based on preliminary design of 800 MW, the Applicant anticipates an energy output of about 311,000 mWh annually.

1.5 LANDS OF THE UNITED STATES

- There are no known federal lands within the project boundary
- There are no known areas within or in the vicinity of the proposed project boundary that are included in or have been designated for study for inclusion in the National Wild and Scenic Rivers System.
- There are no areas within the proposed project boundary that are known to be under the provisions of the Wilderness Act.

1.6 PUBLIC INTEREST

- The proposed JD Sky Pumped Storage Hydro Project will be achieved by installing a new closed loop hydroelectric generator which will utilize modern, Voith Hydro state-of-the-art Ternary Pump Turbine technology to optimize the clean, renewable electricity generating potential of site in a manner that best develops conserves and utilizes this resource forbeneficial public use. The proposed project will fulfill the public interest for a less expensive, more reliable and environmentally sound source of renewable energy.
- The use of this existing water resource will also serve to utilize the region's potentially generous supply of renewable resources (RR), specifically solar and wind, which essentially consume zero water, to produce electric energy.
- Providing reliable peak energy on demand
- Creating Emergency and Pre-Emergency Load Response.
- Creating Quick Start Reserves and grid storage for the grid.
- Providing a means to store excess energy especially from intermittent renewable sources such as when demand is low and large thermal plants cannot shed load.
- Enhancing local economics through creation of jobs during construction and for operations.

EXHIBIT 2 DESCRIPTION OF STUDIES

2.1 STUDIES PROCESS

The Applicant has reviewed substantial topographical, parcel ownership, municipal, economic as well as the mechanical and environmental aspects of the project and conducted a field visit.
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2.2. STUDIES TO BE COMPLETED

The studies and related work to be completed will provide the applicant with the necessary information to prepare the application for license and to progress the concept development plan to final design. All work will be conducted in a manner so as not to affect cultural resources or endangered species, if any, and to cause minimal disturbance to the land and water. Any land altered or disturbed will be adequately restored to the satisfaction of the owner. The applicant proposes to carry out the studies below to determine the feasibility of the proposed project and support an application for license.

As the studies are being conducted the applicant will consult with appropriate federal, state, municipal and local agencies. The exact scope and scheduling of studies will be coordinated in accordance with consultation related to the integrated licensing process.

2.2.1 GENERAL PLAN AND SURVEY

A general plan and survey of the proposed project will be prepared to delineate the site topographic characteristics and approximate size, location and elevations of existing and proposed facilities.

2.2.2 GEOTECHNICAL STUDIES

The applicant will have a geotechnical engineer review existing geotechnical information and perform a current review and analysis of the project site. The geotechnical engineer will also analyze the geotechnical suitability of the foundation material for construction of any potential location for powerhouse and other structures.

2.2.3 WATER QUALITY STUDIES

Data collection for water quality will consist of reviewing existing water quality and effects of the lower reservoir based on field sampling.

2.2.4 RECREATION STUDIES

Analysis will be performed to assess potential use of the project area for to ensure that do not interfere with current recreational activities.

2.2.5 HISTORIC AND ARCHAEOLOGICAL STUDIES

There are no records of archaeological studies. Should any such studies exist, the applicant will have a qualified cultural resources firm review any previous studies and other existing documents, as required, to determine if any additional studies are warranted at this time.

2.2.6 FISHERIES STUDIES

As this project is a closed-loop Pumped Storage Hydro Project, a fisheries study is not anticipated at this time.

2.2.7 PRELIMINARY DESIGN STUDIES

Preliminary engineering design of the proposed powerhouse and electrical faults will be prepared to delineate the scope, cost and schedule for construction. A projection of energy generation will also be made. The preliminary design data will be utilized in the economic analysis to be preformed for the proposed project.

2.2.8 ECONOMIC ANALYSES

Economic analyses of the proposed project will be performed. The analysis will include estimates of power production and power sales rates. A transmission interconnection study will be performed to determine best location for interconnection and feasibility. The Economic criteria such as net revenue, net present value and benefit/cost ratio will be determined.

2. 3 ROADS

No new roads will be built for the purpose of conducting the studies referenced herein.

2.4 NEW DAM CONSTRUCTION

The proposed project contemplates the construction of as many as two new reservoirs. Accordingly, The Applicant will be working with approved State of Arizona Dam consultants to properly determine the location, size and characteristics of the required reservoirs.

2.5 SCHEDULE FOR STUDIES

The following schedule has been developed for conducting the studies and consultations specified herein and leading up to the submission of a license application to the Commission at the conclusion of the requested 36-month term of the permit. This schedule assumes that a permit will be issued to the Applicant by November, 2019. Based on the work to be performed under the requested permit, the Applicant will make a determination as to whether it is appropriate to follow the Integrated Licensing Process or request a waiver for either the Alternative or Traditional Licensing Process.

Permit Issued	Novembet 2019
Perform Studies	November 2019-June 2020
Complete Initial Environmental Analysis	August 2020
Initiate License Process	December 2020
File License Application at FERC	March 2021

EXHIBIT 3 COST AND FINANCING

3.1. ESTIMATED COSTS

The estimated costs of carrying out and preparing the studies, investigations, tests, surveys, maps, plans and specifications identified in Exhibit 2 is $170,000.00 allocated as follows.

General Plan and Geotechnical Studies	$100,000.00
Water Quality Studies	$1000.00
Recreational Studies	$7,500.00
Historic and Archaeological Studies	$0.0
Fisheries Studies	$0.0
Preliminary Design Studies	$35,000.00
Economic and Market Analysis	$35,000.00
Total	$178,500.00

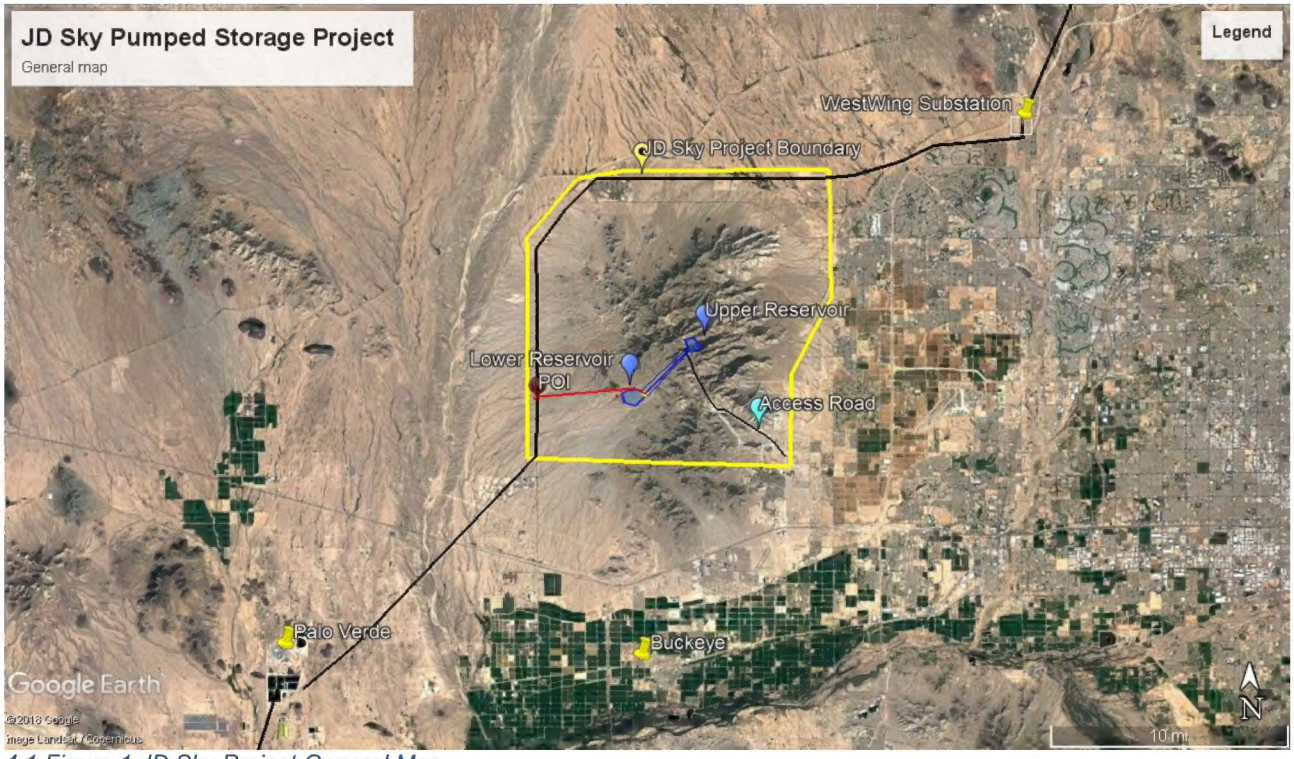
3.2. FINANCIAL SOURCES

The applicant will provide the necessary financing to conduct the activities identified in Exhibit 2.

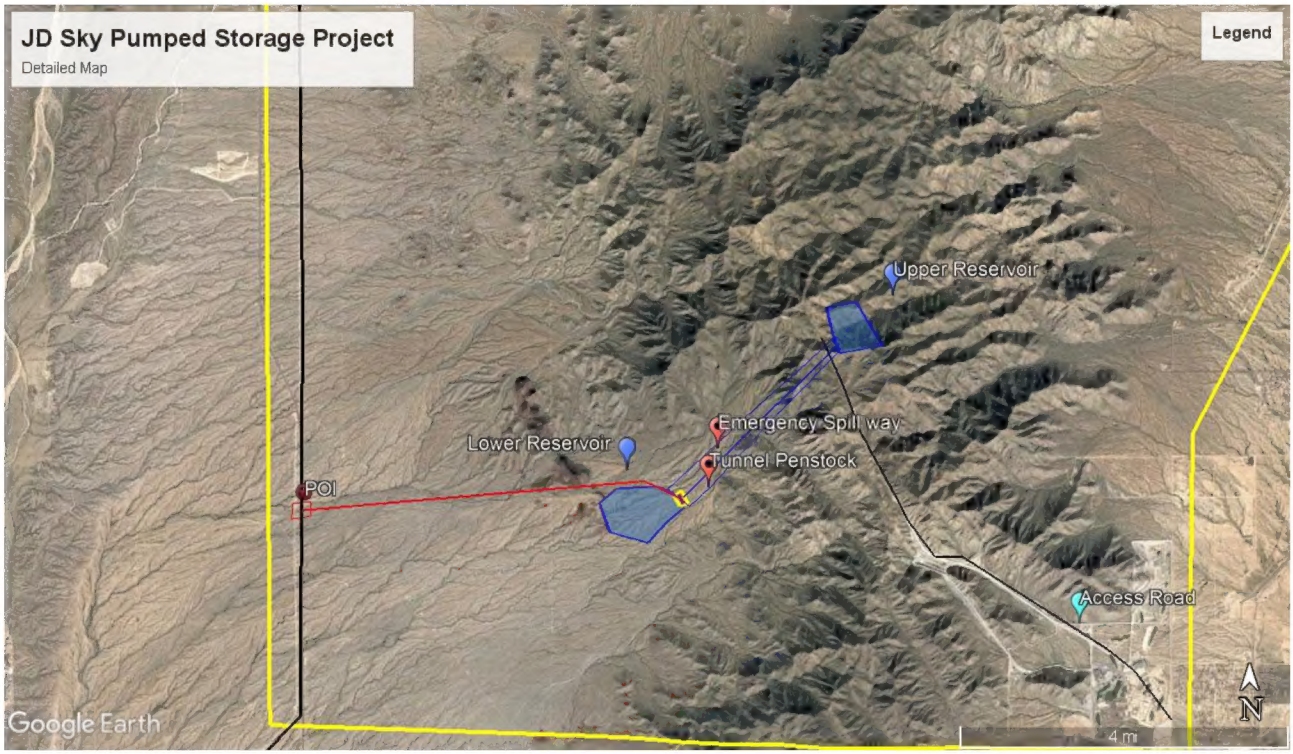
3.3. PROPOSED MARKET

Through the development of the proposed JD Sky Pumped Storage Hydro Project, the applicant will provide an additional source of clean, renewable energy that will provide added stability and capacity to the local energy markets. It is proposed that the electricity generated at the JD Sky Pumped Storage Hydro Project will be offered to the State or sold at market rates to either an electric utility marketer or for transmission to the electric grid. Based upon available feasibility and marketing studies conducted for the electric power market in the vicinity of the proposed project, project revenues are expected to be adequate to construct and operate the JD Sky Pumped Storage Hydro Project and to yield a reasonable rate of return on investment.

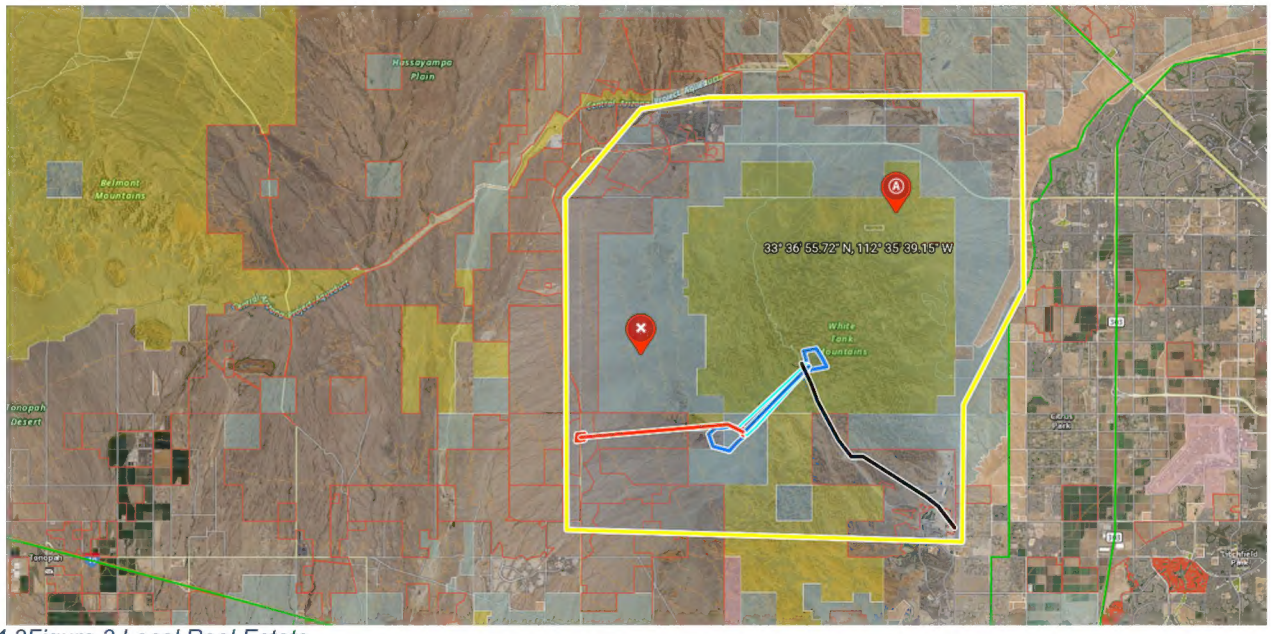
EXHIBIT 4 MAPS



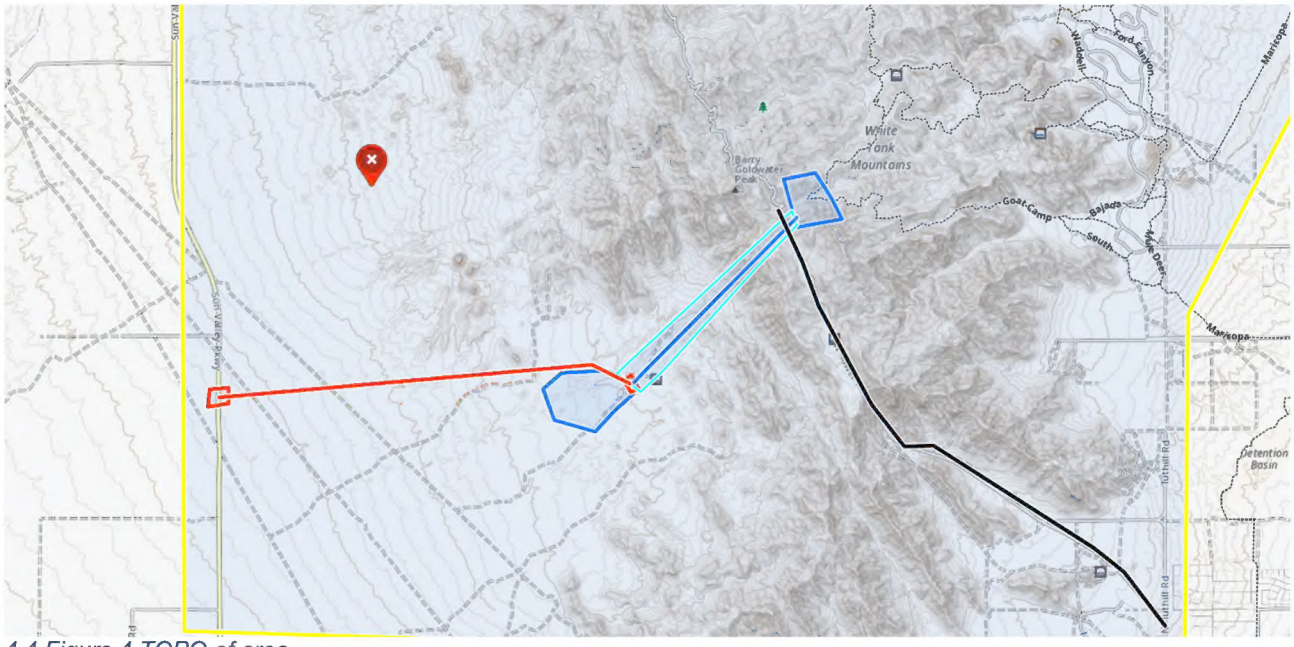
4.1 Figure 1 JD Sky Project General Map



4.2 Figure 2 JD Sky Detailed project Map



4.3Figure 3 Local Real Estate



4.4 Figure 4 TOPO of area

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